

PAGE: 1

RAW SEQUENCE LISTING
PATENT APPLICATION US/10/059,964

DATE: 05/20/2002
TIME: 11:36:29

#3 Input Set: J059964.RAW

This Raw Listing contains the General Information
Section and up to first 5 pages.

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1  <110> APPLICANT: Rikihisa, Yasuko
2      Ohasi, Norio
3  <120> TITLE OF INVENTION: Outer Membrane Protein of Ehrlichia Canis and Ehrlichia
4      Chaffeensis
5  <130> FILE REFERENCE: 22727/04021
6  <140> CURRENT APPLICATION NUMBER: US/10/059,964
7  <141> CURRENT FILING DATE: 2002-01-28
8  <150> EARLIER APPLICATION NUMBER: 09/314,701
9  <151> EARLIER FILING DATE: 1999-05-19
10 <160> NUMBER OF SEQ ID NOS: 66
11 <170> SOFTWARE: PatentIn Ver. 2.0
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25      20              25              30
26      aac ggt aat ttc tac atc agt gga aaa tac atg cca agt gct tcg cat      144
27      Asn Gly Asn Phe Tyr Ile Ser Gly Lys Tyr Met Pro Ser Ala Ser His
28      35              40              45
29      ttt gga gta ttc tct gct aag gaa gaa aga aat aca aca gtt gga gtg      192
30      Phe Gly Val Phe Ser Ala Lys Glu Glu Arg Asn Thr Thr Val Gly Val
31      50              55              60
32      ttt gga ctg aag caa aat tgg gac gga agc gca ata tcc aac tcc tcc      240
33      Phe Gly Leu Lys Gln Asn Trp Asp Gly Ser Ala Ile Ser Asn Ser Ser
34      65              70              75              80
35      cca aac gat gta ttc act gtc tca aat tat tca ttt aaa tat gaa aac      288
36      Pro Asn Asp Val Phe Thr Val Ser Asn Tyr Ser Phe Lys Tyr Glu Asn
37      85              90              95
38      aac ccg ttt tta ggt ttt gca gga gct att ggt tac tca atg gat ggt      336
39      Asn Pro Phe Leu Gly Phe Ala Gly Ala Ile Gly Tyr Ser Met Asp Gly
40      100              105              110
41      cca aga ata gag ctt gaa gta tct tat gaa aca ttt gat gta aaa aat      384
42      Pro Arg Ile Glu Leu Glu Val Ser Tyr Glu Thr Phe Asp Val Lys Asn
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44      caa ggt aac aat tat aag aat gaa gca cat aga tat tgt gct cta tcc      432

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PAGE: 2

RAW SEQUENCE LISTING PATENT APPLICATION US/10/059,964

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TIME: 11:36:29

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50      cta aaa aat gaa gga tta ctt gac ata tca ttt atg ctg aac gca tgc      528
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53      tat gac gta gta ggc gaa ggc ata cct ttt tct cct tat ata tgc gca      576
54      Tyr Asp Val Val Gly Glu Gly Ile Pro Phe Ser Pro Tyr Ile Cys Ala
55          180                      185                      190
56      ggt atc ggt act gat tta gta tcc atg ttt gaa gct aca aat cct aaa      624
57      Gly Ile Gly Thr Asp Leu Val Ser Met Phe Glu Ala Thr Asn Pro Lys
58          195                      200                      205
59      att tct tac caa gga aag tta ggt tta agc tac tct ata agc cca gaa      672
60      Ile Ser Tyr Gln Gly Lys Leu Gly Leu Ser Tyr Ser Ile Ser Pro Glu
61          210                      215                      220
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69      Lys Gly Asn Tyr Pro Ala Ile Val Ile Leu Asp Val Cys His Phe Gly
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84          35                      40                      45
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88          65                      70                      75                      80
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90          85                      90                      95
91      Asn Pro Phe Leu Gly Phe Ala Gly Ala Ile Gly Tyr Ser Met Asp Gly
92          100                     105                     110
93      Pro Arg Ile Glu Leu Glu Val Ser Tyr Glu Thr Phe Asp Val Lys Asn
94          115                     120                     125

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PAGE: 3

RAW SEQUENCE LISTING
PATENT APPLICATION US/10/059,964

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95      Gln Gly Asn Asn Tyr Lys Asn Glu Ala His Arg Tyr Cys Ala Leu Ser
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98          145                      150                      155                      160
99      Leu Lys Asn Glu Gly Leu Leu Asp Ile Ser Phe Met Leu Asn Ala Cys
100          165                      170                      175
101      Tyr Asp Val Val Gly Glu Gly Ile Pro Phe Ser Pro Tyr Ile Cys Ala
102          180                      185                      190
103      Gly Ile Gly Thr Asp Leu Val Ser Met Phe Glu Ala Thr Asn Pro Lys
104          195                      200                      205
105      Ile Ser Tyr Gln Gly Lys Leu Gly Leu Ser Tyr Ser Ile Ser Pro Glu
106          210                      215                      220
107      Ala Ser Val Phe Ile Gly Gly His Phe His Lys Val Leu Gly Asn Glu
108          225                      230                      235                      240
109      Phe Arg Asp Ile Pro Thr Ile Ile Pro Thr Gly Ser Thr Leu Ala Gly
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130      Thr Gly Ile Asn Asp Ser Arg Glu Gly Phe Tyr Ile Ser Val Lys Tyr
131          35                      40                      45
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133      Asn Pro Ser Ile Ser His Phe Arg Lys Phe Ser Ala Glu Glu Ala Pro
134          50                      55                      60
135      atc aat gga aat act tct atc act aaa aag gtt ttc ggg ctg aaa aaa 240
136      Ile Asn Gly Asn Thr Ser Ile Thr Lys Lys Val Phe Gly Leu Lys Lys
137          65                      70                      75                      80
138      gac gga gat ata gca caa tct gcg aat ttt aac agg aca gat cca gcc 288
139      Asp Gly Asp Ile Ala Gln Ser Ala Asn Phe Asn Arg Thr Asp Pro Ala
140          85                      90                      95
141      ctc gag ttt cag aat aac cta ata tca gga ttc tca gga agt att ggt 336
142      Leu Glu Phe Gln Asn Asn Leu Ile Ser Gly Phe Ser Gly Ser Ile Gly
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PAGE: 4

RAW SEQUENCE LISTING
PATENT APPLICATION US/10/059,964

DATE: 05/20/2002

TIME: 11:36:29

Input Set: J059964.RAW

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149              130                      135                      140
150      tat aaa tac ttt gga cta tct cgt gaa gac gca ata gca gat aag aaa      480
151      Tyr Lys Tyr Phe Gly Leu Ser Arg Glu Asp Ala Ile Ala Asp Lys Lys
152      145                      150                      155                      160
153      tat gtt gtc ctt aaa aat gaa ggc atc act ttt atg tca tta atg gtt      528
154      Tyr Val Val Leu Lys Asn Glu Gly Ile Thr Phe Met Ser Leu Met Val
155              165                      170                      175
156      aac act tgc tat gac att aca gct gaa gga gta cct ttc ata ccg tat      576
157      Asn Thr Cys Tyr Asp Ile Thr Ala Glu Gly Val Pro Phe Ile Pro Tyr
158              180                      185                      190
159      gca tgt gca ggt gta gga gca gac ctt ata aac gta ttt aag gat ttt      624
160      Ala Cys Ala Gly Val Gly Ala Asp Leu Ile Asn Val Phe Lys Asp Phe
161              195                      200                      205
162      aat tta aaa ttc tca tac caa ggg aaa ata ggt att agc tat cca atc      672
163      Asn Leu Lys Phe Ser Tyr Gln Gly Lys Ile Gly Ile Ser Tyr Pro Ile
164              210                      215                      220
165      aca cca gaa gtt tcc gct ttt att gga gga tac tac cac gga gtt ata      720
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167      225                      230                      235                      240
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169      Gly Asn Asn Phe Asn Lys Ile Pro Val Ile Thr Pro Val Val Leu Glu
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171      gga gct cct caa aca aca tct gcg cta gta act att gac act gga tac      816
172      Gly Ala Pro Gln Thr Thr Ser Ala Leu Val Thr Ile Asp Thr Gly Tyr
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192      Asp Gly Asp Ile Ala Gln Ser Ala Asn Phe Asn Arg Thr Asp Pro Ala
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PAGE: 5

RAW SEQUENCE LISTING
PATENT APPLICATION US/10/059,964

 DATE: 05/20/2002
 TIME: 11:36:29

Input Set: J059964.RAW

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198	Phe Asp Ala Lys Asn Pro Asp Asn Asn Asp Thr Asn Ser Gly Asp Tyr						
199		130		135		140	
200	Tyr Lys Tyr Phe Gly Leu Ser Arg Glu Asp Ala Ile Ala Asp Lys Lys						
201		145		150		155	160
202	Tyr Val Val Leu Lys Asn Glu Gly Ile Thr Phe Met Ser Leu Met Val						
203		165		170		175	
204	Asn Thr Cys Tyr Asp Ile Thr Ala Glu Gly Val Pro Phe Ile Pro Tyr						
205		180		185		190	
206	Ala Cys Ala Gly Val Gly Ala Asp Leu Ile Asn Val Phe Lys Asp Phe						
207		195		200		205	
208	Asn Leu Lys Phe Ser Tyr Gln Gly Lys Ile Gly Ile Ser Tyr Pro Ile						
209		210		215		220	
210	Thr Pro Glu Val Ser Ala Phe Ile Gly Gly Tyr Tyr His Gly Val Ile						
211		225		230		235	240
212	Gly Asn Asn Phe Asn Lys Ile Pro Val Ile Thr Pro Val Val Leu Glu						
213		245		250		255	
214	Gly Ala Pro Gln Thr Thr Ser Ala Leu Val Thr Ile Asp Thr Gly Tyr						
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229	tct ttc tta cct gga ata tta ctt tct gaa cca gta caa gat gac agt	96					
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232	gtg agt ggc aat ttc tat att agt ggc aag tac atg cca agt gct tct	144					
233	Val Ser Gly Asn Phe Tyr Ile Ser Gly Lys Tyr Met Pro Ser Ala Ser						
234	35 40 45						
235	cat ttt gga gtt ttc tct gcc aaa gaa gaa aaa aat cct act gtc gcg	192					
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238	ttg tat ggt ttg aaa caa gat tgg aac ggt gtt agt gct tca agt cat	240					
239	Leu Tyr Gly Leu Lys Gln Asp Trp Asn Gly Val Ser Ala Ser Ser His						
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242	Ala Asp Ala Asp Phe Asn Asn Lys Gly Tyr Ser Phe Lys Tyr Glu Asn						
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